UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,364	01/09/2002	Conor P. Morrison	212367	7247

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EXAMINER
NGUYEN, VAN H

ART UNIT	PAPER NUMBER
2194	

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/043,364	MORRISON ET AL.
	Examiner	Art Unit
	VAN H. NGUYEN	2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _09 January 2002_.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-34_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-34_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _09 January 2002_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _9/11/02_.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

U.S. Patent and Trademark Office

PTOL-326 (Rev. 1-04)   Office Action Summary   Part of Paper No./Mail Date 20050614

DETAILED ACTION

1.   Claims 1-34 are presented for examination.

Information Disclosure Statement

2.   The Applicants' Information Disclosure Statement, filed September 11, 2002, has been

received, entered into the record, and considered. See attached form PTO 1449.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

4.   The language of claims 1-34 raises a question as to whether the claim is directed merely

to an abstract idea that is not tied to a technological art, environment or machine which would

result in a practical application producing a useful, concrete, and tangible result to form the basis

of statutory subject matter under 35 U.S.C. 101.

5.   Claims 1-9 and 11-14 are rejected under 35 U.S.C. 101 because the claimed invention,

appearing to be comprised of software alone without claiming associated computer hardware

required for execution, is not supported by either a specific and substantial asserted utility (i.e.,

transformation of data) or a well established utility (i.e., a practical application).

6.   Claims 10 and 15-34 are not limited to tangible embodiments. In view of Applicant's

disclosure, specification page 7, lines 1-21, the medium is not limited to tangible embodiments,

instead being defined as including both tangible embodiments (e.g., RAM, ROM, etc.) and

intangible embodiments (e.g., a carrier wave). As such, the claims are not limited to statutory

subject matter and is therefore non-statutory.

7.   To overcome this type of 101 rejection the claims need to be amended to include only the

physical computer media and not a transmission media or other intangible or non-functional

media. For the specification at the bottom, carrier medium and transmission media would be not

statutory but storage media would be statutory.

8.   Claims 16-34 are rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter. Claims 16-34 appear to be a data structure per se that is

nonfunctional.

Claim Rejections - 35 USC § 102

9.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
> subsection of an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

10.   Claims 1, 3, 5-8, 10, 11, 14-16, 18-28, and 30-33 are rejected under 35 U.S.C. 102(e) as

being anticipated by **Kossatchev et al.** (US 6698012 B1).

11.   As to claim 23, Kossatchev teaches the invention as claimed including a computer-

readable medium having stored thereon a data structure (see the abstract; col.1, lines 44-57; and

col.3, lines 1-13), the data structure comprising:

        a first data field containing data representing an application table (the test suite 22; col.3,

lines 14-16), the application table comprising an application table entry (a set of programs and

test data; col.3, lines 14-16); and

        a second data field containing data representing a parameter table (test case parameter

sources; col. 4, lines 11-13), the parameter table comprising a parameter table entry (test case

parameters; col. 4, lines 11-13).

12.   As to claim 24, Kossatchev teaches a third data field containing data representing a

global initialize function (col.4, lines 31-37); a fourth data field containing data representing a

global terminate function (col.15, lines 45-59); and a fifth data field containing data representing

an application function (see the abstract and col.1, lines 44-57).

13.   As to claim 25, Kossatchev teaches a sixth data field containing data representing an

application test function (testing procedures in parallel mode separately from the consecutive

procedures; col.1, lines 49-57).

14.   As to claim 26, Kossatchev teaches a sixth data field containing data representing a

number of times to call the application function (col.4, lines 55-63).

15.   As to claim 27, Kossatchev teaches a seventh data field containing data representing an

application post function (col.3, lines 60-63).

16.   As to claim 28, Kossatchev teaches an eighth data field containing data representing an

application post test function (col.4, lines 55-60).

17.   As to claim 30, Kossatchev teaches a third data field containing data representing a name

of a parameter (col.4, lines 26-27); a fourth data field containing data representing a type of the

parameter (col.4, lines 27-30); and a fifth data field containing data representing a value of the

parameter (col.4, lines 34-37).

18.   As to claim 31, Kossatchev teaches a second application table entry (col.3, lines 14-16).

19.   As to claim 32, Kossatchev teaches a second parameter table entry (col.4, lines 11-17).

20.   As to claim 33, Kossatchev teaches a third data field containing data representing a

module initialize function (col.4, lines 31-37 and col.9, lines 37-43); and a fourth data field

containing data representing a module terminate function (col.15, lines 45-59).

21.   As to claim 16, Kossatchev teaches the invention as claimed including a computer-

readable medium having stored thereon a data structure (see the abstract; col.1, lines 44-57; and

col.3, lines 1-13), the data structure comprising:

        a first data field containing data representing a global initialize function (generates the

test driver sources...fulfill functions to initialize the procedure interface 4, prepare input values,

call tested procedures with test case parameters; col.4, lines 31-37 and col.9, lines 37-43);

        a second data field containing data representing a global terminate function (checks the

script driver call conditions and termination correctness...controls and manages test sequence

execution; col.15, lines 45-59); and

a third data field containing data representing an application function (parallel

procedures, consecutive procedures; see the abstract and col.1, lines 44-57).

22.   As to claims 18-21, refer to claims 25-28 above for rejection.

23.   As to claim 1, the rejections of claims 16 and 23 above are incorporated herein in full.

Additionally, Kossatchev further teaches selecting an application table entry and running a sub-

application referenced by the selected application table entry with one or more parameters

referenced by one or more parameter table entries (select needed test case parameters. The test

case parameters are represented by these constant arrays and programs...the test drivers execute

tests on the SUT 3 using the test case parameters; col.4, lines 11-22).

24.   As to claim 3, refer to claim 33 above for rejection.

25.   As to claim 5, Kossatchev teaches selecting each application table entry in the application

table (col.4, lines 11-22); and processing each selected application table entry (col.4, lines 23-

30).

26.   As to claim 6, Kossatchev teaches collecting data specifying that a sub-application should

not be run; and wherein selecting comprises selecting an application table entry other than one

that references the specified sub-application (col.4, lines 11-37).

27.   As to claim 7, Kossatchev teaches collecting data specifying a value of a parameter;

collecting data specifying a sub-application; and wherein processing further comprises: if the

application table entry being processed references the specified sub-application, then using the

specified value of the parameter (see fig.10 and the associated text).

28.   As to claim 8, Kossatchev teaches collecting data specifying a type of error; collecting

data specifying a sub-application; collecting data specifying an error response action; and

wherein processing further comprises: if the application table entry being processed references

the specified sub-application, and if the specified sub-application generates an error of the

specified type, then performing the specified error response action (col.4, lines 55-63; col.7, lines

37-49; and col.8, lines 23-29).

29.   As to claim 10, "a computer-readable medium having instructions" is inherent to the

system of Kossatchev.

30.   As to claim 11, the rejections of claims 16 and 23 above are incorporated herein in full.

Additionally, Kossatchev further teaches collecting data specifying one or more sub-applications

composing the application (the test suite 22 is set of programs and test data; col.3, lines 14-16);

collecting data specifying one or more parameters to the one or more sub-applications

(generating test case parameters...generate constant arrays and programs that generate and select

needed test case parameters; col.4, lines 11-17); and creating a reference to a type of the

parameter (a test case is defined by a procedure name and its parameters; col.4, lines 25-30).

31.   As to claim 14, Kossatchev teaches adding to the framework module a reference to a

module initialize function (col.4, lines 31-37 and col.9, lines 37-43); and adding to the

framework module a reference to a module terminate function (col.15, lines 45-59).

32.   As to claim 15, "a computer-readable medium having instructions" is inherent to the

system of Kossatchev.

Claim Rejections - 35 USC § 103

33.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

34   Claims 2, 4, 9, 12, 13, 17, 29, and 34 are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Kossatchev et al.** in view of **Grey et al.** (US 6,754,850 B2).

35.   As to claims 2, 12, and 17, Grey teaches creating a reference to at least one of the global

initialize and global terminate functions comprises creating a NULL reference (col.23, lines 23-

33).

It would have been obvious to a person of ordinary skill in the art at the time of the

invention was made to combine the teachings of Grey with Kossatchev because Grey's teachings

would have provided the capability for efficiently testing behavior of procedures in Kossatchev's

system.

36.   As to claims 4, 13, 22 and 29, Kossatchev does not specifically teach the use of threads.

Grey teaches the use of threads (see the abstract; col.3, lines 46-63; and col.7, lines 29-

61).

It would have been obvious to a person of ordinary skill in the art at the time of the

invention was made to combine the teachings of Grey with Kossatchev because Grey's teachings

would have provided the enhanced capability for performing desired tests of a unit under test by

testing a group of units simultaneously.

37.   As to claim 9, Grey teaches the error response action is in the set: break into a debugger,

exit without clean up; terminate all threads; exit immediately (col.17, lines 25-47; col.20, lines

45-67).

38.   As to claim 34, Kossatchev teaches a third data field containing data representing a

module check function (col.7, lines 44-48). Grey teaches a fourth data field containing data

representing a module clean up function (col.20, lines 54-67).

Conclusion

39.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

        Osborne et al. (US 6775824) teaches "Method and system for software object testing."

        Nagasuka et al. (US 6233727) teaches "Computer system for supporting utilization of

functions provided by OS."

        Haley et al. (US 6154876) teaches "Analysis of the effect of program execution of calling

components with data variable checkpointing and resource allocation analysis."

        Whitten et al. (US 6138252) teaches "Graphical test progress monitor."

Marik (US 5903718) teaches "Remote program monitor method and system using a

system-under-test microcontroller for self-debug."

Kolawa et al. (US 5784553) teaches "Method and system for generating a computer

program test suite using dynamic symbolic execution of JAVA programs."

Cangussu et al. "A state model for the software test process with automated parameter

identification" 2001 IEEE, pp. 706-711.

40.   Any inquiry or a general nature or relating to the status of this application should be
directed to the TC 2100 Group receptionist: (571) 272-2100.

41.   Any inquiry concerning this communication or earlier communications from the
examiner should be directed to VAN H. NGUYEN whose telephone number is (571) 272-3765.
The examiner can normally be reached on Monday-Thursday from 8:30AM - 6:00PM. The
examiner can also be reached on alternative Friday.

42.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor Meng-Ai An can be reached on (571) 272-3756.

43.   The fax phone number for the organization where this application or proceeding is
assigned is 703-872-9306.

44.   Information regarding the status of an application may be obtained from the Patent
Application Information Retrieval (PAIR) system. Status information for published applications
may be obtained from either Private PAIR or Public PAIR. Status information for unpublished
applications is available through Private PAIR only. For more information about the PAIR
system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR
system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:
Commissioner for patents
P O Box 1450
Alexandria, VA 22313-1450

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